



Wesley G
Byerly

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MEMORANDUM

To: Wesley Byerly, Pharm.D.
Associate VP for Research Compliance / Institutional Official

From: Joseph Lorenzo, M.D.
Chair, Animal Care Committee

Subject: Semi-Annual Review of Animal Care and Use Program and Inspections of Laboratory Animal Facilities and Animal Study Areas

Date: September 1, 2020

This represents the semi-annual report of the Institutional Animal Care and Use Committee (IACUC) of UConn Health's Program for Animal Care and Use, as well as the facility inspection of this institution, as required by the PHS Policy on Humane Care and Use of Laboratory Animals and as a condition of this institution's Animal Welfare Assurance (A3471-01) on file with the Office of Laboratory Animal Welfare (OLAW), and the USDA Animal Welfare Regulations, 9 CFR Chapter I, subchapter A, as applicable.

Evaluation of the Laboratory Animal Care and Use Program

The IACUC conducted its semi-annual evaluation of UConn Health's Animal Care and Use Program on August 20, 2020 using the *Guide for the Care and Use of Laboratory Animals*, 2011 (NRC) and, as applicable, 9 CFR Chapter 1, 2.31. The Animal Care and Use Program has been accredited by AAALAC-i since 1977. The updated standardized review form available from the OLAW website (<http://grants.nih.gov/grants/olaw/sampledoc/>) was used as a basis for documenting the semi-annual evaluation (see attachment #1). The IACUC also reviewed all current IACUC approved deviations to ensure that these deviations were still applicable (see attachment #5).

UCHC is participating in OLAW, AAALAC-i, and Public Responsibility in Medicine & Research (PRIM&R) webcasts for continuing education for IACUC members. Emails are sent to all IACUC members when the UCHC initial signs up for a webinar and again approximately a week before a webcast is scheduled. Most webinars are in the OVPR conference room. IACUC members were encouraged to participate in these webinars.

No significant deficiencies were noted in the Animal Care and Use Program.

Inspection of Animal Facilities and Animal Study Areas

The IACUC inspected the CCM animal facilities on July , 2019 and animal study areas (see attachment 2) from July 13, 2020 thru July 23, 2020 using the *Guide for the Care and Use of Laboratory Animals*, 2011 (NRC) and, as applicable, 9 CFR Chapter 1, 2.31. The standardized review form available from the OLAW website (<http://grants.nih.gov/grants/olaw/sampledoc/>) was used as a basis for documenting the semi-annual evaluation. The IACUC evaluation of the results of the facility inspections was performed on August 20, 2020.

Institutional Animal Care and Use Committee
263 FARMINGTON AVENUE, MC 1523
FARMINGTON, CT 06030-1523
PHONE 860.679.3429
FAX 860.679.1005
oac@uchc.edu
research.uchc.edu

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During the inspection of the facility, no significant deficiencies were found. There were some minor deficiencies and all deficiencies noted have a correction plan in place approved by the IACUC. The minor deficiencies are not a potential or actual threat to animal health.

There were no significant deficiencies found in any animal study areas. There were some minor deficiencies and all deficiencies noted all have a correction plan in place and approved by the IACUC.

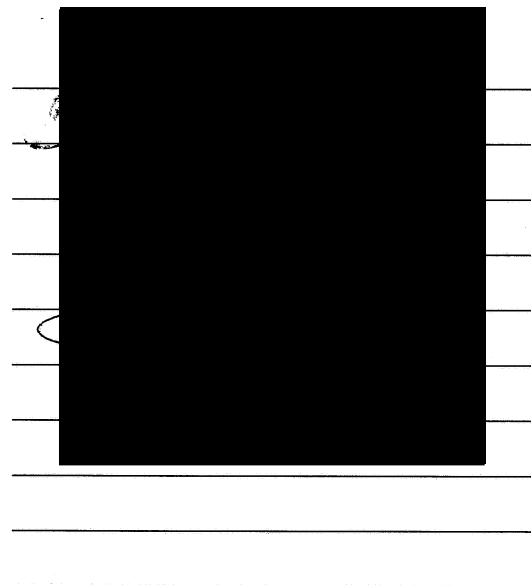
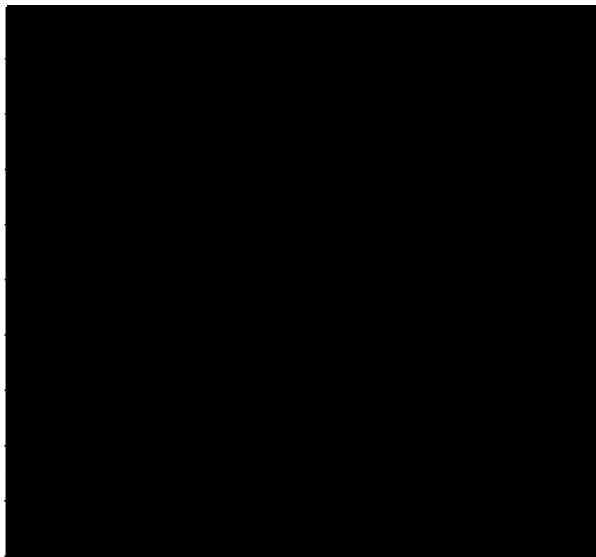
It is the opinion of the IACUC that all deficiencies in the animal study areas and the animal facilities have been corrected or are on schedule for correction and, once corrected, all animal facilities and study areas will be consistent with PHS Policy, the *Guide*, and applicable Animal Welfare Regulations.

Minority Views

To date, there are no minority opinions with regard to this semi-annual report.

Signatures

The following IACUC members have reviewed the evaluation of the semi-annual evaluation of the animal care and use program and evaluation of the results of the inspection of the CCM facilities and required investigator laboratories.



I. Semiannual Program Review Checklist ¹

Institutional Policies and Responsibilities

Date: JUNE 20, 2019

1. Animal Care and Use Program ^{NEW}	A*	M	S	C	NA
• Responsibility for animal well-being is assumed by all members of the program (<i>Guide, p 1</i>) [must]	X				
• IO has authority to allocate needed resources (<i>Guide, p 13</i>)	X				
• Resources necessary to manage program of veterinary care are provided (<i>Guide, p 14</i>) [must]	X				
• Sufficient resources are available to manage the program, including training of personnel in accord with regulations and the <i>Guide</i> (<i>Guide, pp 11, 15</i>)	X				
• Program needs are regularly communicated to IO by AV and/or IACUC (<i>Guide, p 13</i>)	X				
• Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site (<i>Guide, p 14</i>) [must]	X				
• Inter-institutional collaborations are described in formal written agreements (<i>Guide, p 15</i>)	X				
• Written agreements address responsibilities, animal ownership, and IACUC oversight (<i>Guide, p 15</i>)	X				
2. Disaster Planning and Emergency Preparedness ^{NEW}	A*	M	S	C	NA
• Disaster plans for each facility to include satellite locations are in place (<i>Guide, p 35, p 75</i>) [must]	X				
• Plans include provisions for euthanasia (<i>Guide, p 35</i>) [must]	X				
• Plans include triage plans to meet institutional and investigators' needs (<i>Guide, p 35</i>)	X				
• Plans define actions to prevent animal injury or death due to HVAC or other failures (<i>Guide, p 35</i>)	X				
• Plans describe preservation of critical or irreplaceable animals (<i>Guide, p 35</i>)	X				
• Plans include essential personnel and their training (<i>Guide, p 35</i>)	X				
• Animal facility plans are approved by the institution and incorporated into overall response plan (<i>Guide, p 35</i>)	X				
• Law enforcement and emergency personnel are provided a copy and integration with overall plan is in place (<i>Guide, p 35</i>)	X				
3. IACUC ^{NEW}	A*	M	S	C	NA
• Meets as necessary to fulfill responsibilities (<i>Guide, p 25</i>) [must]	X				
• IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (<i>Guide, p 26</i>) [must]	X				
• Continuing IACUC oversight after initial protocol approval is in place (<i>Guide, p 33</i>)	X				
• IACUC evaluates the effectiveness of training programs (<i>Guide, p 15</i>)	X				
4. IACUC Protocol Review - Special Considerations	A*	M	S	C	NA
• Humane endpoints are established for studies that involve tumor models, infectious diseases, vaccine challenge, pain modeling, trauma, production of monoclonal antibodies, assessment of toxicologic effects, organ or system failure, and models of cardiovascular shock (<i>Guide, p 27</i>)	X				
• For pilot studies, a system to communicate with the IACUC is in place (<i>Guide, p 28</i>)	X				
• For genetically modified animals, enhanced monitoring and reporting is in place (<i>Guide, p 28</i>)	X				
• Restraint devices are justified in the animal use protocols (<i>Guide, p 29</i>) [must]	X				
• Alternatives to physical restraint are considered (<i>Guide, p 29</i>)	X				

¹ The PHS Policy requires that Assured institutions comply with the regulations (9 CFR, Subchapter A) issued by the U.S. Department of Agriculture (USDA) under the Animal Welfare Act, as applicable. The endnotes below are specific USDA regulatory requirements that differ from or are in addition to the PHS Policy. This list is not intended to be all inclusive. For additional information please refer to 9 CFR Subchapter A - Animal Welfare.

• Period of restraint is the minimum to meet scientific objectives (<i>Guide, p 29</i>)	X				
• Training of animals to adapt to restraint is provided (<i>Guide, p 29</i>)	X				
• Animals that fail to adapt are removed from study (<i>Guide, p 29</i>)	X				
• Appropriate observation intervals of restrained animals are provided (<i>Guide, p 29</i>)	X				
• Veterinary care is provided if lesions or illness result from restraint (<i>Guide, p 30</i>) [must]	X				
• Explanations of purpose and duration of restraint are provided to study personnel (<i>Guide, p 30</i>)	X				
• Multiple surgical procedures on a single animal are justified and outcomes evaluated (<i>Guide, p 30</i>)	X				
• Major versus minor surgical procedures are evaluated on a case-by-case basis (<i>Guide, p 30</i>)	X				
• Multiple survival procedure justifications in non-regulated species conform to regulated species standards (<i>Guide, p 30</i>)	X				
• Animals on food/fluid restriction are monitored to ensure nutritional needs are met (<i>Guide, p 31</i>)					X
• Body weights for food/fluid restricted animals are recorded at least weekly (<i>Guide, p 31</i>)					X
• Daily written records are maintained for food/fluid restricted animals (<i>Guide, p 31</i>)					X
• Pharmaceutical grade chemicals are used, when available, for animal-related procedures (<i>Guide, p 31</i>)	X				
• Non-pharmaceutical grade chemicals are described, justified, and approved by IACUC (<i>Guide, p 31</i>)	X				
• Investigators conducting field studies know zoonotic diseases, safety issues, laws and regulations applicable in study area (<i>Guide, p 32</i>)					X
• Disposition plans are considered for species removed from the wild (<i>Guide, p 32</i>)					X
• Toe-clipping only used when no alternative, performed aseptically and with pain relief (<i>Guide, p 75</i>)	X				

5. IACUC Membership and Functions

	A*	M	S	C	NA
• IACUC is comprised of at least 5 members, appointed by CEO (PHS Policy, <i>IV.A.3.</i>)	X				
• Members include a veterinarian, a scientist, a nonscientist, and a nonaffiliated non-lab animal user (<i>Guide, p 24</i>) ²	X				
• IACUC authority and resources for oversight and evaluation of institution's program are provided (<i>Guide, p 14</i>)	X				
• IACUC conducts semiannual evaluations of institutional animal care and use program (PHS Policy, <i>IV.B.</i>)	X				
• Conducts semiannual inspections of institutional animal facilities (PHS Policy, <i>IV.B.</i>)	X				
• IACUC organizationally reports to the Institutional Official (PHS Policy, <i>IV.A.1.b.</i>)	X				
• Methods for reporting and investigating animal welfare concerns are in place (<i>Guide, p 23</i>) [must]	X				
• Reviews and investigates concerns about animal care and use at institution ³ (PHS Policy, <i>IV.B.</i>)	X				
• Procedures are in place for review, approval, and suspension of animal activities ⁴ (PHS Policy, <i>IV.B.</i>)	X				
• Procedures are in place for review and approval of significant changes to approved	X				

² Part 2 Subpart C - Research Facilities

- 2.31(b)(2) - "The Committee shall be composed of a Chairman and at least two additional members;... at least one shall not be affiliated in any way with the facility...such person will provide representation for general community interests in the proper care and treatment of animals." [PHS policy requires 5 members]

³ 2.32(c)(4) - "...No facility employee, Committee member, or laboratory personnel shall be discriminated against or be subject to any reprisal for reporting violations of any regulation or standards under the Act." [USDA requirement additional to PHS Policy]

⁴ 2.31(d)(5) - "...shall conduct continuing reviews of activities...not less than annually." [PHS Policy requires a complete new review every 3 years utilizing all the criteria for initial review]

activities (PHS Policy, IV.B.)					
• Policies are in place for special procedures (e.g., genetically modified animals, restraint, multiple survival surgery, food and fluid regulation, field investigations, agricultural animals) (<i>Guide</i> , p 27-32)	X				
• Requests for exemptions from major survival surgical procedure restrictions are made to USDA/APHIS ⁵ (<i>Guide</i> , p 32) [must]	X				X
6. IACUC Training NEW	A*	M	S	C	NA
• All IACUC members should receive:					
o Formal orientation to institution's program (<i>Guide</i> , p 17)	X				
o Training on legislation, regulations, guidelines, and policies (<i>Guide</i> , p 17)	X				
o Training on how to inspect facilities and labs where animal use or housing occurs (<i>Guide</i> , p 17)	X				
o Training on how to review protocols as well as evaluate the program (<i>Guide</i> , p 17)	X				
o Ongoing training/education (<i>Guide</i> , p 17)	X				
7. IACUC Records and Reporting Requirements⁶	A*	M	S	C	NA
• Semiannual report to the IO (PHS Policy, IV.B.)					
o Submitted to IO every 6 months	X				
o Compiles program review and facility inspection(s) results (includes all program and facility deficiencies)	X				
o Includes minority IACUC views	X				
o Describes IACUC-approved departures from the <i>Guide</i> or PHS Policy and the reasons for each departure ⁷	X				
o Distinguishes significant from minor deficiencies	X				
o Includes a plan and schedule for correction for each deficiency identified ⁸	X				
• Reports to OLAW (PHS Policy, IV.F.)					
o Annual report to OLAW documents program changes, dates of the semiannual program reviews and facility inspections and includes any minority views	X				
o Promptly advises OLAW of serious/ongoing <i>Guide</i> deviations or PHS Policy noncompliance (NOT-OD-05-034)	X				
o Institute must promptly advise OLAW of any suspension of an animal activity by the IACUC (NOT-OD-05-034)	X				
• Reports to U.S. Department of Agriculture (USDA) or Federal funding agency ⁹					
o Annual report to USDA contains required information including all exceptions/exemptions	X				

⁵ 2.31(d)(1)(x) - "...no animal will be used in more than one major operative procedure from which it is allowed to recover unless...(it is) justified for scientific reasons...(or is) required as routine veterinary procedure...or other special circumstances as determined by the Administrator on an individual basis." [this last point is an additional USDA justification for multiple survival surgeries]

⁶ 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

⁷ 2.36(b)(3) - "...exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the IACUC. A summary of all such exceptions must be attached to the facility's annual report." [Refers to USDA annual report]

⁸ 2.31(c)(3) - "...Any failure to adhere to the plan and schedule that results in a significant deficiency remaining uncorrected shall be reported in writing within 15 business days by the IACUC, through the institutional official, to APHIS and any Federal agency funding that activity." [PHS Policy requires prompt reporting to OPRR of serious or continuing noncompliance with the PHS Policy or serious deviations from the provisions of the *Guide*]

⁹ 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

o Reporting mechanism to USDA is in place for IACUC-approved exceptions to the regulations and standards	X				
o Reports are filed within 15 days for failures to adhere to timetable for correction of significant deficiencies	X				
o Promptly reports suspensions of activities by the IACUC to USDA and any Federal funding agency	X				
• Records (PHS Policy, IV.E.)					
o IACUC meeting minutes and semiannual reports to the IO are maintained for 3 years	X				
o Records of IACUC reviews of animal activities include all required information ¹⁰	X				
o Records of IACUC reviews are maintained for 3 years after the completion of the study	X				
8. Veterinary Care (See also next section - Veterinary Care)	A*	M	S	C	NA
• An arrangement for veterinarian(s) with training or experience in lab animal medicine is in place including backup veterinary care ¹¹	X				
• Veterinary access to all animals is provided (<i>Guide</i> , p 14) [must]	X				
• Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (<i>Guide</i> , p 14) [must]	X				
• Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (<i>Guide</i> , p 5) [must]	X				
• Veterinarian provides consultation when interventional control is not possible (<i>Guide</i> , p 5) [must]	X				
• If part time /consulting veterinarian, visits meet programmatic needs (<i>Guide</i> , p 14)					X
• Regular communication occurs between veterinarian and IACUC (<i>Guide</i> , p 14)	X				
• Veterinarian(s) have experience and training in species used (<i>Guide</i> , p 15) [must]	X				
• Veterinarian(s) have experience in facility administration/management (<i>Guide</i> , p 15)	X				
9. Personnel Qualifications and Training	A*	M	S	C	NA
• All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included: [must]					
o Veterinary/other professional staff (<i>Guide</i> , p 15-16)	X				
o IACUC members (<i>Guide</i> , p 17)	X				
o Animal care personnel (<i>Guide</i> , p 16)	X				
o Research investigators, instructors, technicians, trainees, and students (<i>Guide</i> , pp 16-17)	X				
• Continuing education for program and research staff provided to ensure high quality	X				

care and reinforce training (<i>Guide</i> , pp 16-17)					
• Training is available prior to starting animal activity (<i>Guide</i> , p 17)	X				
• Training is documented (<i>Guide</i> , p 15)	X				
• Training program content includes: (<i>Guide</i> , p 17)					
o Methods for reporting concerns (<i>Guide</i> , p 17)	X				
o Humane practices of animal care (e.g., housing, husbandry, handling) ¹²	X				
o Humane practices of animal use (e.g., research procedures, use of anesthesia, pre- and post-operative care, aseptic surgical techniques and euthanasia (<i>Guide</i> , p 17) ¹³					
o Research/testing methods that minimize numbers necessary to obtain valid results (PHS Policy, IV.A.1.g.)	X				
o Research/testing methods that minimize animal pain or distress (PHS Policy, IV.A.1.g.)	X				
o Use of hazardous agents, including access to OSHA chemical hazard notices where applicable (<i>Guide</i> , p 20)	X				
o Animal care and use legislation (<i>Guide</i> , p 17)	X				
o IACUC function (<i>Guide</i> , p 17)	X				
o Ethics of animal use and Three R's (<i>Guide</i> , p 17)	X				

10. Occupational Health and Safety of Personnel

	A*	M	S	C	NA
• Program is in place and is consistent with federal, state, and local regulations (<i>Guide</i> , p 17) [must]	X				
• Program covers <i>all</i> personnel who work in laboratory animal facilities (<i>Guide</i> , p 18)	X				
• Changing, washing, and showering facilities are available as appropriate (<i>Guide</i> , p 19)	X				
• Hazardous facilities are separated from other areas and identified as limited access (<i>Guide</i> , p 19)	X				
• Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies) (<i>Guide</i> , p 20)	X				
• Personal hygiene procedures are in place (e.g., work clothing, eating/drinking/smoking policies) (<i>Guide</i> , p 20)	X				
• Procedures for use, storage, and disposal of hazardous biologic, chemical, and physical agents are in place (<i>Guide</i> , p 21)	X				
• Personal Protective Equipment for the work area is appropriate and available (<i>Guide</i> , p 21)	X				
• Program for medical evaluation and preventive medicine for personnel includes:					
o Pre-employment evaluation including health history (<i>Guide</i> , p 22)	X				
o Immunizations as appropriate (e.g., rabies, tetanus) and tests as appropriate (<i>Guide</i> , p 22)	X				
o Zoonosis surveillance as appropriate (e.g., Q-fever, tularemia, Hantavirus, plague) (<i>Guide</i> , p 23)	X				
o Procedures for reporting and treating injuries, including accidents, bites, allergies, etc. (<i>Guide</i> , p 23)	X				
o Promotes early diagnosis of allergies including preexisting conditions (<i>Guide</i> , p 22)	X				
o Considers confidentiality and other legal factors as required by federal, state and local regulations (<i>Guide</i> , p 22) [must]	X				

¹² 2.32(c) - "Humane methods of animal maintenance and experimentation, including the basic needs of each species, proper handling and care for the various species of animals used by the facility, proper pre-procedural and post-procedural care of animals, and aseptic surgical methods and procedures."

¹³ 2.32(c) - additional specifications include:

- "proper use of anesthetics, analgesics, and tranquilizers for any species of animals used by the facility"
- "methods whereby deficiencies in animal care and treatment are reported, including deficiencies in animal care and treatment reported by any employee of the facility..."
- "utilization of services (e.g., National Agricultural Library, National Library of Medicine) to provide information on appropriate animal care and use, alternatives to the use of live animals in research, that could prevent unintended and unnecessary duplication of research involving animals, and regarding the intent and requirements of the Act." [USDA training specifications are more detailed than PHS Policy].

<ul style="list-style-type: none"> ○ If serum samples are collected, the purpose is consistent with federal and state laws (<i>Guide</i>, p 22) [must] ● Waste anesthetic gases are scavenged (<i>Guide</i>, p 21) ● Hearing protection is provided in high noise areas (<i>Guide</i>, p 22) ● Respiratory protection is available when performing airborne particulate work (<i>Guide</i>, p 22) ● Special precautions for personnel who work with nonhuman primates, their tissues or body fluids include: <ul style="list-style-type: none"> ○ Tuberculosis screening provided for all exposed personnel (<i>Guide</i>, p 23) ○ Training and implementation of procedures for bites, scratches, or injuries associated with macaques (<i>Guide</i>, p 23) ○ PPE is provided including gloves, arm protection, face masks, face shields, or goggles (<i>Guide</i>, p 21) ○ Injuries associated with macaques are carefully evaluated and treatment implemented (<i>Guide</i>, p 23) ● Occupational safety and health of field studies is reviewed by OSH committee or office (<i>Guide</i>, p 32) 	X X X 	X
11. Personnel Security NEW	A*	M S C NA
<ul style="list-style-type: none"> ● Preventive measures in place include pre-employment screening, and physical and IT security (<i>Guide</i>, p 23) 	X	
12. Investigating & Reporting Animal Welfare Concerns NEW	A*	M S C NA
<ul style="list-style-type: none"> ● Methods for investigating and reporting animal welfare concerns are established (<i>Guide</i>, p 23) [must] ● Reported concerns and corrective actions are documented (<i>Guide</i>, p 24) ● Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (<i>Guide</i>, p 24) <ul style="list-style-type: none"> ○ Includes multiple contacts (<i>Guide</i>, p 24) ○ Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (<i>Guide</i>, p 24) 	X X X X X	

NOTES:

Veterinary Care

Date: **AUGUST 20, 2020**

1. Clinical Care and Management NEW

	A*	M	S	C	NA
• Veterinary program offers high quality of care and ethical standards (<i>Guide, p 105</i>) [must]	X				
• Veterinarian provides guidance to all personnel to ensure appropriate husbandry, handling, treatment, anesthesia, analgesia, and euthanasia (<i>Guide, p 106</i>)	X				
• Veterinarian provides oversight to surgery and perioperative care (<i>Guide, p 106</i>)	X				
• Veterinary care program is appropriate for program requirements (<i>Guide, pp 113-114</i>)	X				
• Veterinarian(s) is familiar with species and use of animals and has access to medical and experimental treatment records (<i>Guide, p 114</i>)	X				
• Procedures to triage and prioritize incident reports are in place (<i>Guide, p 114</i>)	X				
• Procedures are in place to address:					
o Problems with experiments to determine course of treatment in consultation with investigator(<i>Guide, p 114</i>)	X				
o Recurrent or significant health problems with the IACUC and documentation of treatments and outcomes (<i>Guide, p 114</i>)	X				
o Veterinary review and oversight of medical and animal use records (<i>Guide, p 115</i>)	X				
• Procedures established for timely reporting of animal injury, illness, or disease (<i>Guide, p 114</i>) [must]	X				
• Procedures established for veterinary assessment, treatment, or euthanasia (<i>Guide, p 114</i>) [must]	X				
• Veterinarian is authorized to treat, relieve pain, and/or euthanize (<i>Guide, p 114</i>) [must]	X				

2. Animal Procurement and Transportation/Preventive Medicine

	A*	M	S	C	NA
• Procedures for lawful animal procurement are in place (<i>Guide, p 106</i>) [must]	X				
• Sufficient facilities and expertise are confirmed prior to procurement (<i>Guide, p 106</i>)	X				
• Procurement is linked to IACUC review and approval (<i>Guide, p 106</i>)	X				
• Random source dogs and cats are inspected for identification (<i>Guide, p 106</i>)					X
• Population status of wildlife species is considered prior to procurement (<i>Guide, p 106</i>)					X
• Appropriate records are maintained on animal acquisition (<i>Guide, p 106</i>)	X				
• Animal vendors are evaluated to meet program needs and quality (<i>Guide, p 106</i>)	X				
• Breeding colonies are based on need and managed to minimize numbers (<i>Guide, p 107</i>)	X				
• Procedures for compliance with animal transportation regulations, including international requirements, are in place (<i>Guide, p 107</i>) [must]	X				
• Transportation is planned to ensure safety, security and minimize risk (<i>Guide, p 107</i>)	X				
• Movement of animals is planned to minimize transit time and deliveries are planned to ensure receiving personnel are available (<i>Guide, pp 107- 108</i>)	X				
• Appropriate loading and unloading facilities are available (<i>Guide, p 109</i>)	X				
• Environment at receiving site is appropriate (<i>Guide, p 109</i>)	X				
• Policies in place on separation by species, source, and health status (<i>Guide, pp 109, 111-112</i>)	X				
• Procedures in place for quarantine to include zoonoses prevention (<i>Guide, p 110</i>)	X				
• Quarantined animals from different shipments are handled separately or physically separated (<i>Guide, p 110</i>)	X				
• Procedures in place for stabilization/acclimation (<i>Guide, pp 110-111</i>)	X				
• Policies in place for isolation of sick animals (<i>Guide, p 112</i>)	X				
• Program is in place for surveillance, diagnosis, treatment and control of disease to include daily observation (<i>Guide, p 112</i>)	X				
• Diagnostic resources are available for preventive health program (<i>Guide, p 112</i>)	X				

3. Surgery

	A*	M	S	C	NA
• Surgical outcomes are assessed and corrective changes instituted (<i>Guide, p 115</i>)	X				
• Researchers have appropriate training to ensure good technique (<i>Guide, p 115</i>) [must]	X				
• Pre-surgical plans are developed and include veterinary input (e.g., location, supplies,	X				

anesthetic and analgesic use, peri-operative care, recordkeeping) (<i>Guide</i> , p 116)					
• Aseptic surgery is conducted in dedicated facilities or spaces, unless exception justified and IACUC approved (<i>Guide</i> , p 116)	X				
• Surgical procedures including laparoscopic procedures are categorized as major or minor (<i>Guide</i> , pp 117-118)	X				
• For nonsurvival surgery, the site is clipped, gloves are worn and instruments and area are clean (<i>Guide</i> , p 118)	X				
• Aseptic technique is followed for survival surgical procedures (<i>Guide</i> , pp 118-119)	X				
• Effective procedures for sterilizing instruments and monitoring expiration dates on sterile packs are in place (<i>Guide</i> , p 119)	X				
• Procedures for monitoring surgical anesthesia and analgesia are in place (<i>Guide</i> , p 119)	X				
• For aquatic species, skin surfaces are kept moist during surgical procedures (<i>Guide</i> , p 119)	X				
• Post-operative monitoring and care are provided by trained personnel and documented (e.g., thermoregulation, physiologic function, analgesia, infection, removal of skin closures) (<i>Guide</i> , pp 119-120)	X				

4. Pain, Distress, Anesthesia and Analgesia

	A*	M	S	C	NA
• Guidelines for assessment and categorization of pain, distress and animal wellbeing are provided during training (<i>Guide</i> , p 121)	X				
• Selection of analgesics and anesthetics is based on professional veterinary judgment (<i>Guide</i> , p 121)	X				
• Painful procedures are monitored to ensure appropriate analgesic management (<i>Guide</i> , p 122)	X				
• Nonpharmacologic control of pain is considered as an element of postprocedural care (<i>Guide</i> , p 122)	X				
• Procedures are in place to assure antinociception before surgery begins (<i>Guide</i> , p 122) [must]	X				
• Guidelines for selection and use of analgesics and anesthetics are in place and regularly reviewed and updated (<i>Guide</i> , p 122)	X				
• Special precautions for the use of paralytics are in place to ensure anesthesia ¹⁴ (<i>Guide</i> , p 123)					X

5. Euthanasia

	A*	M	S	C	NA
• Methods are consistent with AVMA Guidelines on Euthanasia unless approved by the IACUC (<i>Guide</i> , p 123)	X				
• Standardized methods are developed and approved by the veterinarian and IACUC that avoid distress and consider animal age and species (<i>Guide</i> , pp 123-124)	X				
• Training is provided on appropriate methods for each species and considers psychological stress to personnel (<i>Guide</i> , p 124)	X				
• Procedures and training are in place to ensure death is confirmed (<i>Guide</i> , p 124) [must]	X				

6. Drug Storage and Control NEW

	A*	M	S	C	NA
• Program complies with federal regulations for human and veterinary drugs (<i>Guide</i> , p 115) [must]	X				
• Drug records and storage procedures are reviewed during facility inspections (<i>Guide</i> , p 115)	X				
• Procedures are in place to ensure analgesics and anesthetics are used within expiration date (<i>Guide</i> , p 122) [must]	X				
• Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely (<i>Guide</i> , p 122)	X				

* A = acceptable

M = minor deficiency

S = significant deficiency (is or may be a threat to animal health or safety)

¹⁴ 2.31(d)(iv)(C) - "Procedures that may cause more than momentary or slight pain or distress to the animals will...not include the use of paralytics without anesthesia."

TEAM #1				TEAM #2			
Room #	Level	Contents	Code	Room #	Level	Contents	Code
		Feed room				GTTF Mouse room	
		Necropsy		0		GTTF Gowning room	
		Clinical laboratory		0		GTTF Procedure room	
		Rodent OR		0		GTTF Procedure room	
		Rodent OR		0		GTTF Mouse room	
		Surgical Scrub		0		Spy's Lab	
		Chemical storage		0		GTTF Mouse room	
		Large OR		0		GTTF Mouse room	
		Prep room		0		GTTF lab	
6		Mice		0		Cryo lab	
6.5		Quarantine		0		GTTF lab	
5		Temporary Holding Room & Test a				Sterile cage storage	
		Soiled Washroom		0.5		Mice	
		Clean Washroom				Jax Lab	
1.2 & 8		Hyperoxia Chamber & Cold Rabbit		1		Mice	
		Sound proof room		1		Mice	
		Animal receiving		1		Mice	
		Bedding storage/dispensing		1		Mice	
		Bedding machine room		1.2		Mice	
		Loading dock		1.2		Mice	
		Supply Storage				Procedure room	
		Transport Vehicle				Procedure room	
						Rack staging	
						Janitor closet	

TEAM #3

TEAM #4

Room #	Level	Contents	Code	Room #	Level	Contents	Code
	1	Mice			1.2	Mice	
	1.2	Mice			1.2	Mice	
	1	Mice			1.2	Mice	
	1.2	Mice			1	Mice	
	1.2	Mice			1	Mice	
	1.2	Mice			1	Mice	
		Procedure room			1	Mice	
		Procedure room			1	Mice	
		Rack staging			1	Mice	
		Janitor closet			1.2	Mice	
	1.2	Mice			1	Mice	
	1.2	Mice				Procedure room	
	4	Chem holding room				Procedure room	
	4	Chem hazard procedure room				Imaging anteroom	
		Storage				Imaging suite	
		Aquatic room				Rack storage	
		Procedure room				Janitor closet	
		Procedure room			4	ABSL-2 anteroom	
		Rack staging			4	ABSL-2 procedure room	
		Janitor closet			4	ABSL-2 Mice & Rats	
	8	Rabbit			4	ABSL-2 Mice	
	8	Rabbit				Procedure room	
	8	Rat				Procedure room	
	3	Rat				Rack storage	
	8	Rabbit				Janitor closet	
	7	Guinea pig				Behavior suite anteroom	
		Necropsy				Perfusion lab	
		Rack staging				Behavioral lab	
		Janitor closet				Behavioral lab	
						Behavioral lab	
						Rack storage	
						Janitor closet	

8/20/2020

July 2020

Confirmed Available

Primary Investigator

Room Number

Date

Time

IACUC

7/13/2020	9:00 AM
7/13/2020	9:20 AM
7/13/2020	9:40 AM
7/13/2020	10:00 AM
7/13/2020	10:20 AM
7/13/2020	10:40 AM
7/13/2020	11:00 AM
7/13/2020	11:20 AM
7/13/2020	11:40 AM

7/13/2020	9:00 AM
7/13/2020	9:20 AM
7/13/2020	9:40 AM
7/13/2020	10:00 AM
7/13/2020	10:20 AM
7/13/2020	10:40 AM
7/13/2020	11:00 AM
7/13/2020	11:20 AM
7/13/2020	11:40 AM

7/14/2020	9:00 AM
7/14/2020	9:20 AM
7/14/2020	9:40 AM
7/14/2020	10:00 AM
7/14/2020	10:20 AM
7/14/2020	10:40 AM
7/14/2020	11:00 AM
7/14/2020	11:20 AM
7/14/2020	11:40 AM

7/14/2020	9:00 AM
7/14/2020	9:20 AM
7/14/2020	9:40 AM
7/14/2020	10:00 AM
7/14/2020	10:20 AM
7/14/2020	10:40 AM
7/14/2020	11:00 AM
7/14/2020	11:20 AM
7/14/2020	11:40 AM

7/15/2020	9:00 AM
7/15/2020	9:20 AM
7/15/2020	9:40 AM
7/15/2020	10:00 AM
7/15/2020	10:20 AM
7/15/2020	10:40 AM
7/15/2020	11:00 AM
7/15/2020	11:20 AM
7/15/2020	11:40 AM

July 2020

Confirmed Available

Primary Investigator	Room Number	Date	Time	IACUC
		7/15/2020	9:00 AM	
		7/15/2020	9:20 AM	
		7/15/2020	9:40 AM	
		7/15/2020	10:00 AM	
		7/15/2020	10:20 AM	
		7/15/2020	10:40 AM	
		7/15/2020	11:00 AM	
		7/15/2020	11:20 AM	
		7/15/2020	11:40 AM	
		7/16/2020	9:00 AM	
		7/16/2020	9:20 AM	
		7/16/2020	9:40 AM	
		7/16/2020	10:00 AM	
		7/16/2020	10:20 AM	
		7/16/2020	10:40 AM	
		7/16/2020	11:00 AM	
		7/16/2020	11:20 AM	
		7/16/2020	11:40 AM	
		7/16/2020	9:00 AM	
		7/16/2020	9:20 AM	
		7/16/2020	9:40 AM	
		7/16/2020	10:00 AM	
		7/16/2020	10:20 AM	
		7/16/2020	10:40 AM	
		7/16/2020	11:00 AM	
		7/16/2020	11:20 AM	
		7/16/2020	11:40 AM	
		7/23/2020	9:00 AM	
		7/23/2020	9:20 AM	
		7/23/2020	9:40 AM	
		7/23/2020	10:00 AM	
		7/23/2020	10:20 AM	
		7/23/2020	10:40 AM	
		7/23/2020	11:00 AM	
		7/23/2020	11:20 AM	
		7/23/2020	11:40 AM	
		7/23/2020	1:00 PM	

July 2020

Confirmed Available

Primary Investigator	Room Number	Date	Time	IACUC
WALK OVER TO MARB		7/22/2020	9:00 AM	
		7/22/2020	9:20 AM	
		7/22/2020	9:40 AM	
		7/22/2020	10:00 AM	
		7/22/2020	10:20 AM	
MARB ANIMAL FACILITY		7/22/2020	10:40 AM	
BUS OVER TO 400 FARMINGTON AVENUE (Bus #4)		7/22/2020	9:10 AM	
		7/22/2020	9:40 AM	
		7/22/2020	10:00 AM	
GCSB ANIMAL FACILITY		7/22/2020	10:20 AM	
BUS BACK TO ACADEMIC ENTRANCE (Bus #4)		7/22/2020	11:04 AM	
		7/22/2020	11:20 AM	
		7/22/2029	11:40 AM	

HuskySMS facilities inspection deficiencies

Attachment #3

Finding	Date	Space(s)	Inspector	Resolved	Inspection Type
Floors must be impervious to water	7/17/20			Open	UHC- Animal Facility Food and Bedding
Insect pest control is inadequate	7/17/20			Open	UHC- Animal Facility Food and Bedding
Room walls and ceiling are inadequate	7/17/20			Open	UHC- Animal Facility Food and Bedding
Scavenging of isoflurane waste gasses is inadequate - gas	7/17/20			Open	UHC Animal Facility-Surgery
Scavenging of isoflurane waste gasses is inadequate - use	7/17/20			Open	UHC Animal Facility-Surgery
Sharps disposal - inadequate (overflowing/recapped needle)	7/17/20			Open	UHC Animal Facility-Surgery
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Items racked off the floor (ie on a pallet or shelf)	7/17/20			Open	UHC Rack Staging
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/23/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Items racked off the floor (ie on a pallet or shelf)	7/17/20			Open	UHC Rack Staging
Food is inadequate	7/17/20			Open	UHC Animal Facility- Aquatic holding room
Identification is inadequate	7/17/20			Open	UHC Animal Facility- Aquatic holding room
Instruments and supplies are inadequate	7/17/20			Open	UHC Animal Facility- Aquatic holding room
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Electrical outlets are inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Sanitation is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Sanitation is inadequate	7/17/20			Open	UHC Facility Housing
Insect pest control is inadequate	7/17/20			Open	UHC Facility Housing
Food is inadequate	7/22/20			Open	UHC Facility Housing
Access and egress is inadequate	7/29/20			Open	UHC Rack Staging
Insect pest control is inadequate	7/22/20			Open	UHC Facility Housing
Room doors are not secure	7/17/20			Open	UHC Facility Housing
Biosafety cabinets are not calibrated	7/17/20			Open	UHC Facility Housing
Items racked off the floor (ie on a pallet or shelf)	7/17/20			Open	UHC- Animal Facility Food and Bedding
Items racked off the floor (ie on a pallet or shelf)	7/17/20			Open	UHC- Animal Facility Food and Bedding
Room walls and ceiling are inadequate	7/17/20			Open	UHC Facility Housing
Access and egress is inadequate	7/29/20			Open	UHC Rack Staging
Food is inadequate	7/22/20			Open	UHC Facility Housing

UNIVERSITY OF CONNECTICUT HEALTH CENTER SEMIANNUAL PROGRAM & FACILITY REVIEW REPORT

ATTACH # 4

DATE: July 2020 LAB INSPECTIONS (07/13/20-7/28/20)

MEMBERS IN ATTENDANCE: [REDACTED]

Deficiency Category (S or M)	*	Location	Deficiency & Plan for Correction	Responsible Party	Correction Schedule & Interim Status	Date Complete
M M M M M		[REDACTED]	Animal protocols have not been read/documented Animal safety protocols have not been read/documented Animal training records are incomplete or missing Eye wash checks are not performed and/or documented Other Issues- Charcoal filters not dated with periodical weighing	[REDACTED]	Will check again November 2020	
M		[REDACTED]	Biosafety cabinets are not calibrated	[REDACTED]	PO is in for calibration	
M		[REDACTED]	Sharps disposal - inadequate (overflowing/recapped needles)	[REDACTED]	Will check again November 2020	
M		[REDACTED]	Animal protocols have not been read/documented	[REDACTED]	Will check again November 2020	
M		[REDACTED]	Drugs are past expiration dates Isoflourane	[REDACTED]	Informed not to use expired drug and get a replacement	

S = significant deficiency, **M** = minor deficiency (a significant deficiency is or may be a threat to animal health or safety)

*Check if repeat deficiency

UNIVERSITY OF CONNECTICUT HEALTH CENTER SEMIANNUAL PROGRAM & FACILITY REVIEW REPORT

ATTACH # 4

DATE: July 2020 LAB INSPECTIONS (07/13/20-7/28/20)

MEMBERS IN ATTENDANCE: [REDACTED]

Deficiency Category (S or M)	*	Location	Deficiency & Plan for Correction	Responsible Party	Correction Schedule & Interim Status	Date Complete
M M		[REDACTED]	Eye wash checks are not performed and/or documented E-1053 Other Issues- Empty, dirty cage on floor of lab. E-1052	[REDACTED]	Will check again November 2020	
M M M M M		[REDACTED]	Animal protocols have not been read/documented Animal safety protocols have not been read/documented Animal training records are incomplete or missing Drugs are past expiration dates-Isoflurane Eye wash checks are not performed and/or documented	[REDACTED]	Will check again November 2020 Informed to discard expired isoflurane	
M M M		[REDACTED]	Drugs are past expiration dates Isoflurane Gas cylinders are not adequately secured -E3027 Biosafety cabinets are not calibrated E-3027	[REDACTED]	Will check again November 2020 Informed to discard expired isoflurane	
M M M M M M		[REDACTED]	Animal protocols have not been read/documented Animal safety protocols have not been read/documented *Animal training records are incomplete or missing. Controlled drug log sheets are inadequately completed Controlled drug storage is not behind two locks	[REDACTED]	Will check again November 2020 PI told to dispose of controlled substances to CCM	
M		[REDACTED]	*Animal training records are incomplete or missing	[REDACTED]	Animal training records need to be generated and saved	8/13/20- actions resolved
M		[REDACTED]	Scavenging of isoflurane waste gasses is inadequate	[REDACTED]	Will check again November 2020	

S = significant deficiency, M = minor deficiency (a significant deficiency is or may be a threat to animal health or safety) *Check if repeat deficiency

UNIVERSITY OF CONNECTICUT HEALTH CENTER SEMIANNUAL PROGRAM & FACILITY REVIEW REPORT

ATTACH # 4

DATE: July 2020 LAB INSPECTIONS (07/13/20-7/28/20)

MEMBERS IN ATTENDANCE: [REDACTED]

Deficiency Category (S or M)	*	Location	Deficiency & Plan for Correction	Responsible Party	Correction Schedule & Interim Status	Date Complete
M M		[REDACTED]	Biosafety cabinets are not calibrated Sharps disposal - inadequate (overflowing/recapped needles)	[REDACTED]	Will check again November 2020	
M		[REDACTED]	Biosafety cabinets are not calibrated	[REDACTED]	PO submitted for calibration Will check again November 2020	
M		[REDACTED]	Eye wash checks are not performed and/or documented	[REDACTED]	Will check again November 2020	
M		[REDACTED]	Eye wash checks are not performed and/or documented	[REDACTED]	Will check again November 2020	
M		[REDACTED]	Gas cylinders are not adequately secured	[REDACTED]	Will check again November 2020	
M		[REDACTED]	Animal training records are incomplete or missing	[REDACTED]	Animal training records need to be generated and saved	8/13/20- actions resolved

S = significant deficiency, M = minor deficiency (a significant deficiency is or may be a threat to animal health or safety) *Check if repeat deficiency

UNIVERSITY OF CONNECTICUT HEALTH CENTER SEMIANNUAL PROGRAM & FACILITY REVIEW REPORT

ATTACH #

UNIVERSITY OF CONNECTICUT HEALTH CENTER SEMIANNUAL PROGRAM & FACILITY REVIEW REPORT

ATTACH # 4

DATE: July 2020 LAB INSPECTIONS (07/13/20-7/28/20)

Deficiency Category (S or M)	*	Location	Deficiency & Plan for Correction	Responsible Party	Correction Schedule & Interim Status	Date Complete
M			Eye wash checks are not performed and/or documented		Will check again November 2020	
M			Drugs are past expiration dates Isoflurane		PI told to discard expired drugs	
M M M			Animal protocols have not been read/documented Controlled drug log sheets are inadequately completed Drugs are past expiration dates		Will check again November 2020 PI told to discard expired drugs	
M M			*Animal protocols have not been read/documented Animal safety protocols have not been read/documented		Will check again November 2020	
M M M M M			Animal protocols have not been read/documented		Will check again November 2020	
M			Animal protocols have not been read/documented Animal safety protocols have not been read/documented Animal training records are incomplete or missing		Will check again November 2020	

S = significant deficiency, **M** = minor deficiency (a significant deficiency is or may be a threat to animal health or safety) *Check if repeat deficiency

UNIVERSITY OF CONNECTICUT HEALTH CENTER SEMIANNUAL PROGRAM & FACILITY REVIEW REPORT

ATTACH #

UNIVERSITY OF CONNECTICUT HEALTH CENTER SEMIANNUAL PROGRAM & FACILITY REVIEW REPORT

ATTACH # 4

DATE: July 2020 LAB INSPECTIONS (07/13/20-7/28/20)

Deficiency Category (S or M)	* Location	Deficiency & Plan for Correction	Responsible Party	Correction Schedule & Interim Status	Date Complete
M M M M M		Animal protocols have not been read/documented Animal safety protocols have not been read/documented Animal training records are incomplete or missing Controlled drug log sheets are inadequately completed Controlled drug storage is not behind two locks		Will check again November 2020 PI in formed to discard controlled substances to CCM	
M		Animal training records are incomplete or missing		Will check again November 2020	
M		Fume hoods are not calibrated. Both fume hoods have been inspected, and failed.		Work order submitted	
M		Animal protocols have not been read/documented		Will check again November 2020	
M		Animal training records are incomplete or missing		Will check again November 2020	
M M M		Animal protocols have not been read/documented Animal safety protocols have not been read/documented Animal training records are incomplete or missing		Will check again November 2020	

S = significant deficiency, **M** = minor deficiency (a significant deficiency is or may be a threat to animal health or safety) *Check if repeat deficiency

UNIVERSITY OF CONNECTICUT HEALTH CENTER SEMIANNUAL PROGRAM & FACILITY REVIEW REPORT

ATTACH # 4

DATE: July 2020 LAB INSPECTIONS (07/13/20-7/28/20)

MEMBERS IN ATTENDANCE: [REDACTED]

Deficiency Category (S or M)	*	Location	Deficiency & Plan for Correction	Responsible Party	Correction Schedule & Interim Status	Date Complete
M		[REDACTED]	Biosafety cabinets are not calibrated	[REDACTED]	PO submitted	
M		[REDACTED]	Sharps disposal - inadequate (overflowing/recapped needles)	[REDACTED]	Sharps disposal container changed	8/13/20
M		[REDACTED]	Eye wash checks are not performed and/or documented	[REDACTED]	Will check again November 2020	
M M M M M		[REDACTED]	Animal protocols have not been read/documented Animal training records are incomplete or missing	[REDACTED]	Will check again November 2020	
M M M M M		[REDACTED]	Animal training records are incomplete or missing Eye wash checks are not performed and/or documented	[REDACTED]	Will check again November 2020	
M		[REDACTED]	Animal protocols have not been read/documented Animal safety protocols have not been read/documented Animal training records are incomplete or missing Drugs are past expiration dates-Isoflourane	[REDACTED]	Will check again November 2020 PI informed to discard expired drugs	

S = significant deficiency, M = minor deficiency (a significant deficiency is or may be a threat to animal health or safety) *Check if repeat deficiency

Approved Deviations from the *Guide for the Care and Use of Laboratory Animals* and/or Exemptions to the Standards of the Animal Welfare Act and Regulations

1. Protocol [REDACTED] Approved 11/29/17 Expires 8/31/20
Deviation: Housing outside CCM facilities for >24 hours
Justification: Sensors implanted in mice are attached to computers which cannot be brought into housing rooms.

2. Protocol [REDACTED] Approved 1/16/18 Expires 10/31/20
Deviation 1: Prolonged restraint
Justification 1: Light restraint is required to ensure that contact with the electrodes is maintained throughout testing AND because the ability to move and turn during testing would cause significant activation of the abdominal musculature and would likely obscure the EMG activity resulting from colorectal distension. Without restraint, it is not possible to maintain contact with the electrodes exiting the nape of the neck without risking pulling the electrodes out of the light anchors within the abdominal musculature.
Deviation 2: MMSS
Justification 2: Related components of a single research objective.

3. Protocol [REDACTED] Approved 3/23/18 Expires 12/31/20
Deviation: Fluid deprivation
Justification: Required for behavioral testing

4. Protocol [REDACTED] Approved 4/25/18 Expires 1/31/20
Deviation: MMSS
Justification: Related components of a single research objective.

5. Protocol [REDACTED] Approved 4/26/18 Expires 1/31/20
Deviation: Cage changing not performed for 2-3 week after bone marrow chimera procedure.
Justification: The mice have a platelet deficiency during the initial week or two of recovery, they will not be handled or have their bedding changed to minimize the chance of internal bleeding.
Deviation 2: MMSS
Justification 2: Related components of a single research objective.

6. Protocol [REDACTED] Approved 5/29/18 Expires 2/21/21
Deviation: Use of wire-bottom caging
Justification: Required temporarily for urine collection.

7. Protocol [REDACTED] Approved 6/6/18 Expires 3/31/21
Deviation: Prolonged restraint.
Justification: Weight bearing research - Tail suspension as a model of hindlimb unloading for bone and joint research is a well-established model with over 1000 publications.

8. Protocol [REDACTED] Approved 6/26/18 Expires 3/31/21
Deviation: Use of wire-bottom caging
Justification: Required temporarily for urine collection.

9. Protocol [REDACTED] Approved 7/24/18/18 Expires 4/30/21
Deviation 1: Food restriction for 6 hours
Justification 1: To perform a glucose tolerance test
Deviation 2: Single housing of social species
Justification 2: Required to collect stool samples for subsequent administration

10. Protocol [REDACTED] Approved 8/3/18 Expires 5/31/18
Deviation 1: Food and water restriction
Justification 1: Chronic unpredictable mild stress (CUMS) is an established animal model of depression. Mice show depression-like behaviors after exposing to a variable sequence of 13 unpredictable stressors for 28 days. Food deprivation and water deprivation, less than 14 h, are the two key components of the 13 stressors in this CUMS protocol, mice are unlikely to develop typical depression-like behaviors if food deprivation or water deprivation is excluded from this CUMS protocol.
Deviation 2: The mouse will be placed in a 50 ml conical tube that has a lot of holes (for air circulation) for 1h and prevents the mouse from moving around.
Justification 2: part of the CUMS model of depression.

11. Protocol [REDACTED] Approved 8/9/18 Expires 5/31/18
Deviation 1: Food and fluid restriction
Justification 2: Method to induce CUMS for depression studies
Deviation 2: Prolonged restraint
Justification 2: Method to induce CUMS for depression studies

12. Protocol [REDACTED] Approved 8/16/18 Expires 5/31/18
Deviation: Housing of rabbits outside thermoneutral zone
Justification: Rabbits are used to propagate *T. pallidum* and the reduced temperature is required for the bacteria to grow in the rabbits.

13. Protocol [REDACTED] Approved 8/23/18 Expires 5/31/18
Deviation 1: Use of wire bottom caging
Justification 1: Mice inoculated with ticks, when ticks are finished feeding, they fall off the animals. In order to collect them, mice are kept in wire bottom cages over water.
Deviation 2: Animals housed outside CCM for >24 hours.
Justification 2: The feeding of ticks on the animals and collection of the subsequent infected ticks are housed in the PI laboratory as animals are monitored throughout the day.

14. Protocol [REDACTED] Approved 9/28/18 Expires 6/30/21
Deviation: Use of wire-bottom caging
Justification: Required temporarily for urine collection.

15. Protocol [REDACTED] Approved 10/18/18 Expires 7/31/21
Deviation: Single housing of pregnant females
Justification: Critical to ensure precise timings of matings

16. Protocol [REDACTED] Approved 10/19/18 Expires 7/31/21
Deviation: Cervical dislocation without anesthesia
Justification: Anesthesia interferes with interferon-induced NK cell cytotoxicity which the lab is studying.

17. Protocol [REDACTED] Approved 11/5/18 Expires 8/31/21
Deviation: >150g weight cage density
Justification: Mice in protocol gain weight, so they will get large (as they are studying obesity) and to separate mice will interfere with experimental parameters.

18. Protocol [REDACTED] Approved 11/20/18 Expires 8/31/21
Deviation: Use of wire bottom caging
Justification: Urine collection
19. Protocol [REDACTED] Approved 12/18/18 Expires 9/30/21
Deviation: Water restriction
Justification: Requirement for the behavioral testing being performed.
20. Protocol [REDACTED] Approved 12/19/18 Expires 9/30/21
Deviation: Use of wire bottom caging
Justification: Urine collection
21. Protocol [REDACTED] Approved 12/21/18 Expires 9/30/21
Deviation: Individual housing of mice
Justification: Individual housing after a subcutaneous implant for a maximum time of 12 days; PIs don't want implants to be disturbed.
22. Protocol [REDACTED] Approved 12/21/19 Expires 9/30/21
Deviation: Cervical dislocation without anesthesia
Justification: Gasses and anesthetics suppress myocardial function which will negatively impact work.
23. Protocol [REDACTED] Approved 1/10/19 Expires 10/31/21
Deviation: No environmental enrichment after knee surgery
Justification: Enrichment will aggravate the osteoarthritic progression and interfere with the study.
24. Protocol [REDACTED] Approved 1/25/19 Expires 10/31/21
Deviation: Cervical dislocation without anesthesia
Justification: Gasses and anesthetics cause hypoxia-induced gene expression changes which interfere with study.
25. Protocol [REDACTED] Approved 1/28/19 Expires 10/31/21
Deviation: No environmental enrichment after knee surgery
Justification: Enrichment will aggravate the osteoarthritic progression and interfere with the study.
26. Protocol [REDACTED] Approved 2/13/19 Expires 11/30/21
Deviation 1: Cervical dislocation without anesthesia
Justification 1: Gasses and anesthetics disrupt hypothalamic-pituitary adrenal axis which will negatively impact work.
Deviation 2: Food restriction
Justification 2: Overnight fast prior to a glucose tolerance test.
27. Protocol [REDACTED] Approved 2/26/19 Expires 11/30/21
Deviation: Cervical dislocation without anesthesia
Justification: Gasses and anesthetics impairs viability of isolated limb bud mesenchymal cells which interfere with study.
28. Protocol [REDACTED] Approved 2/28/19 Expires 11/30/21
Deviation: Cervical dislocation without anesthesia
Justification: Gasses and anesthetics interfere with lymphocyte functions which interfere with study.

29. Protocol [REDACTED] Approved 3/12/19 Expires 12/31/21
Deviation: Cervical dislocation without anesthesia
Justification: Gasses and anesthetics interfere with lymphocyte functions which interfere with study.
30. Protocol [REDACTED] Approved 4/17/19 Expires 1/31/22
Deviation: Individual housing of social species
Justification: Housed individual after surgery to avoid any damage that may result if animals fight or groom excessively.
31. Protocol [REDACTED] Approved 6/25/19 Expires 3/31/22
Deviation: Light intensity of 400-600 lux
Justification: Required for experimental parameter for AMD
32. Protocol [REDACTED] Approved 7/1/19 Expires 4/30/22
Deviation: Individual housing of social species
Justification: Required to ensure adequate bacterial colonization on mouse skin; grooming by other mice would affect skin growth of the microorganisms.
33. Protocol [REDACTED] Approved 7/29/19 Expires 4/30/22
Deviation: Decapitation without anesthesia
Justification: Anesthetics and CO₂ elevate plasma glucocorticoid levels and interfere with evaluation.
34. Protocol [REDACTED] Approved 7/31/19 Expires 4/30/19
Deviation 1: Decapitation without anesthetics
Justification 1: Anesthetics affect gene expression in the intestine
Deviation 2: Housing outside central facility for greater than 24 hours
Justification 2: Animals are housed in a specialized housing chamber in the laboratory
35. Protocol [REDACTED] Approved 9/16/19 Expires 6/30/22
Deviation: Housing outside central facility for greater than 24 hours
Justification: Mice are given hazardous substances and PI, at the request of the BSO, will provide husbandry rather than introducing substance into the central facility.
36. Protocol [REDACTED] Approved 10/22/19 Expires 7/31/22
Deviation 1: Individual housing of social species
Justification 2: Animals are attached to glucose and insulin sensors and cage mates can cause destruction of the tubing of wire connections.
Deviation 1: Housing outside central facility for greater than 24 hours
Justification 2: The sensors to which mice are attached are attached to specialized computer equipment in the PI laboratory.
37. Protocol [REDACTED] Approved 10/22/19 Expires 7/31/22
Deviation 1: Individual housing of social species
Justification 2: Animals are attached to glucose and insulin sensors and cage mates can cause destruction of the tubing of wire connections.
Deviation 1: Housing outside central facility for greater than 24 hours
Justification 2: The sensors to which mice are attached are attached to specialized computer equipment in the PI laboratory.
38. Protocol [REDACTED] Approved 11/14/19 Expires 8/31/22
Deviation: Individual housing of social species
Justification: Animals will be housed singly after surgery to prevent wounds from being damaged; animals will be rehoused together after healing is complete.

39. Protocol [REDACTED] Approved 11/15/19 Expires 8/31/22
Deviation: Individual housing of social species
Justification: Animals will be housed singly after surgery to prevent wounds from being damaged; animals will be rehoused together after healing is complete.
40. Protocol [REDACTED] Approved 11/25/19 Expires 8/31/22
Deviation: Individual housing of social species
Justification: Animals will be housed singly after surgery to prevent wounds from being damaged; animals will be rehoused together after healing is complete.
41. Protocol [REDACTED] Approved 12/13/19 Expires 9/20/22
Deviation: Cervical dislocation without anesthesia
Justification: Use of CO₂ will damage the bursa and make embryo collection impossible.
42. Protocol [REDACTED] Approved 2/11/20 Expires 11/30/22
Deviation: Housing animals outside of the central facility for >24 hours
Justification: CCM does not have housing available for zebrafish; therefore, fish will be kept in dedicated room outside of CCM under PI control.
43. Protocol [REDACTED] Approved 5/4/20 Expires 2/28/23
Deviation: Individual housing of social species
Justification: Individual fecal samples from individual mice are required for microbiome studies.
44. Protocol [REDACTED] Approved 5/13/20 Expires 2/28/23
Deviation: Individual housing of social species
Justification: Animals will be housed singly after surgery to prevent wounds from being damaged; animals will be rehoused together after healing is complete.
45. Protocol [REDACTED] Approved 5/26/20 Expires 2/28/23
Deviation: Individual housing of social species
Justification: Animals will be housed singly after surgery to prevent wounds from being damaged; animals will be rehoused together after healing is complete.

CURRENT AS OF 8/20/20